
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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CHROMIUM IN DECEMBER 1997

Chromite consumption increased slightly in December 1997 compared with that of the previous month, according to the U.S. Geological Survey. Net production of chromium ferroalloys and metal in December 1997 increased 6% compared with production data for November 1997. Chromite stocks decreased 7% over the same period. At the December rate of consumption, chromium stocks represented 7 months of

domestic supply.

Included in this Mineral Industry Surveys are U.S. consumption and stocks of chromite; U.S. net production, net shipments, and stocks of chromium materials; U.S. Government inventory for December 1997; U.S. consumption by end use and consumer stocks for chromium ferroalloys and metal; and foreign trade for November 1997.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight unless otherwise noted)

	1996	1997				
	Jan.-Dec.	3rd quarter	Oct.	Nov.	Dec.	Jan. - Dec.
Production:						
Chromium ferroalloys and metal: 2/						
Net production:						
Gross weight	36,800	16,400	4,810	4,980	5,290	61,600
Chromium content	26,400	10,800	3,080	3,240	3,540	41,200
Net shipments	38,800	14,900	5,620	3,810	5,710	62,600
Stainless steel production 3/	1,920,000	476,000	NA	NA	NA	1,520,000 5/
Components of U.S. supply:						
Stainless steel scrap receipts	579,000	166,000	62,200	54,000 r/	44,800	695,000
Imports for consumption						
Chromite ore	250,000	79,000	60,700	72	NA	303,000 5/
Chromium ferroalloys 6/	420,000	127,000	15,000	30,600	NA	371,000 5/
Chromium metal 7/	8,730	2,450	870	446	NA	8,950 5/
Stainless steel	781,000	NA	NA	NA	NA	510,000 8/
Stainless steel scrap	50	NA	NA	NA	NA	NA
Distribution of U.S. supply:						
Consumption:						
Chromite ore	282,000	90,000	25,800	29,100	29,300	344,000
Chromium ferroalloys & metal	333,000	89,300	30,000 r/	27,000	NA	300,000 5/
Exports:						
Chromite ore	69,400	3,190	1,050	843	NA	17,700 5/
Chromium ferroalloys	15,800	1,630	1,060	500	NA	8,720 5/
Chromium metal	1,330	801	43	50	NA	2,290 5/
Stainless steel	NA	NA	NA	NA	NA	NA
Stainless steel scrap	303	118	36	NA	NA	322 5/
Stocks at end of period:						
Industry:						
Chromite ore:						
Chemical and metallurgical	165,000	171,000	158,000	201,000	185,000	XX
Refractory	7,890	8,500	8,180	7,760	7,290	XX
Total	173,000	179,000	166,000	209,000	192,000	XX
Chromium ferroalloys and metal:						
Producer	6,450	5,480	4,670	5,850	5,430	XX
Consumer	27,600	16,700 r/	17,500 r/	16,900	NA	XX
Government stockpile:						
Chromite ore	1,190,000	1,120,000	1,090,000	1,090,000	1,090,000	XX
Chromium ferroalloys	1,050,000	1,020,000	1,020,000	1,020,000	1,020,000	XX
Chromium metal	7,720	7,720	7,720	7,720	7,720	XX

r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low- and high-carbon ferrochromium, chromium concentrates, ferrochromium, chromium metal, and other miscellaneous alloys.

3/ Data on stainless steel production from American Iron and Steel Institute, quarterly production of stainless and heat resisting raw steel.

4/ Includes data for January through September; October through December data not available at time of publication.

5/ Includes data for January through November; December data not available at time of publication.

6/ Includes high-, medium-, and low- ferrochromium and ferrochromium silicon.

7/ Includes waste and scrap and other.

8/ Includes data for January through June; July through December data not available at time of publication.

TABLE 2
U.S. CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF
CHROMIUM FERROALLOYS AND METAL IN NOVEMBER 1997 1/

(Metric tons, gross weight unless otherwise noted)

End use	Ferrochromium			Other	Total	Jan. through Nov. total 2/
	Low-carbon	Medium-and high-carbon	Ferro-chromium silicon			
Steel:						
Carbon	271	190	3	1	464	7,730
Stainless and heat resisting	398	18,000	W	W	18,400	224,000
Full alloy	362	1,750	W	5	2,120	26,400
High-strength low-alloy and electric	169	W	573	W	742	9,170
Tool	W	W	--	--	W	3,330
Cast irons	W	103	W	W	103	1,800
Superalloys	214	W	--	247	461	9,960
Alloys:						
Welding materials 3/	--	W	--	W	W	30
Other alloys 4/	15	W	--	64	79	611
Miscellaneous and unspecified	140	879	3,570	44	4,640	44,000
Total: 5/ gross weight	1,570	20,900	4,150	359 6/	27,000	XX
Chromium content	1,100	12,800	1,500	316	15,700	XX
Stocks, Nov. 30, 1997	1,670	14,000	1,010	201 7/	16,900	XX
Jan. through Nov.: 2/						
Total	19,300	257,000	46,700	4,250 8/	XX	327,000
Chromium content	13,100	167,000	16,600	3,750	XX	200,000

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified." XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes revised data from previous months.

3/ Includes structural and hard-facing materials.

4/ Includes magnetic, aluminum, copper, nickel, and other alloys.

5/ Includes estimates.

6/ Includes 261 tons of chromium metal.

7/ Includes 149 tons of chromium metal.

8/ Includes 3,330 tons of chromium metal.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY 1/ OF CHROMIUM MATERIALS 2/

(Metric tons)

Period	Chromite ore			Chromium ferroalloys			Chromium metal	
	Chemical	Metal-lurgical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	Alumino-thermic	Electrolytic
1996:								
December	220,000	645,000	322,000	718,000	283,000	52,700	2,670	5,050
1997:								
January	220,000	637,000	322,000	704,000	283,000	52,700	2,670	5,050
February	220,000	633,000	322,000	695,000	283,000	52,700	2,670	5,050
March	220,000	627,000	318,000	695,000	283,000	52,700	2,670	5,050
April	220,000	626,000	318,000	695,000	283,000	52,700	2,670	5,050
May	220,000	620,000	312,000	689,000	283,000	52,700	2,670	5,050
June	217,000	614,000	309,000	689,000	283,000	52,700	2,670	5,050
July	217,000	611,000	309,000	689,000	283,000	52,700	2,670	5,050
August	217,000	592,000	309,000	689,000	283,000	52,700	2,670	5,050
September	217,000	592,000	309,000	689,000	283,000	52,700	2,670	5,050
October	217,000	565,000	309,000	689,000	283,000	52,700	2,670	5,050
November	217,000	565,000	309,000	689,000	283,000	52,700	2,670	5,050
December	217,000	565,000	309,000	689,000	283,000	52,700	2,670	5,050

1/ Includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped.

2/ Data are rounded to three significant digits.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS AND METAL 1/

Period	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
1996:							
November	1,390	\$486	1,450	852	\$1,350	93	\$825
December	1,060	214	6,200	3,750	3,140	89	1,090
Jan.-Dec.	69,400	11,100	15,800	9,520	14,000	1,330	12,800
1997:							
January	1,540	364	635	405	718	60	600
February	5,930	977	975	609	1,160	142	1,120
March	1,480	487	841	527	939	180	1,260
April	1,830	376	1,060	561	1,300	379	2,610
May	1,230	237	1,020	585	1,030	387	2,820
June	643	131	995	589	1,090	251	1,840
July	759	222	358	220	387	274	1,900
August	1,070	307	633	385	714	317	2,040
September	1,370	260	636	368	730	210	1,740
October	1,050	394	1,060	543	1,200	43	528
November	843	263	505	301	463	50	585
Total	17,700	4,020	8,720	5,090	9,720	2,290	17,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium-silicon.

3/ Includes wrought and unwrought and waste and scrap.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE,
FERROCHROMIUM, AND CHROMIUM METAL 1/

	(Metric tons)				
	1996 Jan.-Dec.	1997			
		Sept.	Oct.	Nov.	Jan.-Nov.
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	8,030	--	147	--	7,220
Chromic oxide content	2,650	--	68	--	2,150
More than 40% but less than 46% chromic oxide:					
Gross weight	25,400	--	--	--	19,500
Chromic oxide content	11,100	--	--	--	8,970
46% or more chromic oxide:					
Gross weight	217,000	967	60,700	72	276,000
Chromic oxide content	102,000	445	29,200	34	130,000
Total, all grades:					
Gross weight	250,000	967	60,800	72	303,000
Chromic oxide content	116,000	445	29,200	34	141,000
Ferrochromium:					
Low-carbon: 2/					
Gross weight	60,700	7,540	1,820	1,530	57,100
Chromium content	38,400	4,910	1,260	1,020	37,600
Medium-carbon: 3/					
Gross weight	36	--	--	4	1,550
Chromium content	23	--	--	3	834
High-carbon: 4/					
Gross weight	359,000	48,400	13,100	29,100	312,000
Chromium content	207,000	25,800	7,270	15,700	173,000
Total, all grades					
Gross weight	420,000	56,000	15,000	30,600	371,000
Chromium content	246,000	30,800	8,530	16,700	211,000
Chromium metal:					
Other than waste and scrap	8,670	726	860	446	8,940
Waste and scrap	67	--	10	--	11
Total, all grades	8,730	726	870	446	8,950

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Ferrochromium containing not more than 3% carbon.

3/ Ferrochromium containing more than 3% carbon but not more than 4% carbon.

4/ Ferrochromium containing more than 4% carbon.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN NOVEMBER 1997,
BY GRADE AND BY COUNTRY 1/

Country	November			January-November		
	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value 2/ (thousands)
Not more than 40% chromic oxide:						
China	--	--	--	20	7	\$6
Japan	--	--	--	657	67	3
Philippines	--	--	--	5,780	1,910	1,050
South Africa	--	--	--	747	162	92
Venezuela	--	--	--	20	7	6
Total	--	--	--	7,220	2,150	1,160
More than 40% but less than 46% chromic oxide:						
South Africa	--	--	--	19,500	8,970	1,460
46% or more chromic oxide:						
Canada	--	--	--	13	6	5
Russia	--	--	--	22	261	117
South Africa	72	34	\$11	276,000	130,000	19,700
Total	72	34	11	276,000	130,000	19,800
Total, all grades:						
Canada	--	--	--	13	6	5
China	--	--	--	20	7	6
Japan	--	--	--	657	67	3
Philippines	--	--	--	5,780	1,910	1,050
Russia	--	--	--	22	261	117
South Africa	72	34	11	296,000	139,000	21,200
Venezuela	--	--	--	20	7	6
Total	72	34	11	303,000	141,000	22,400

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

Source: Bureau of the Census.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN NOVEMBER 1997,
BY GRADE AND BY COUNTRY 1/

Country	November			January-November		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)
High-carbon ferrochromium: 3/						
Albania	--	--	--	2,510	1,520	\$1,350
Canada	--	--	--	28	14	21
China	--	--	--	15,100	9,530	9,630
Croatia	1,800	1,150	\$996	12,200	7,880	6,540
India	--	--	--	11,200	7,010	6,880
Kazakstan	--	--	--	268	197	456
Russia	7,670	3,520	5,060	66,700	30,100	44,600
South Africa	10,800	5,530	4,750	103,000	50,200	43,600
Turkey	--	--	--	52,700	35,700	32,900
United Kingdom	--	--	--	82	56	63
Zimbabwe	8,850	5,470	5,340	48,500	30,400	29,500
Total	29,100	15,700	16,100	312,000	173,000	175,000
Medium-carbon ferrochromium: 4/						
China	--	--	--	17	11	16
Russia	4	3	8	214	139	248
South Africa	--	--	--	1,300	671	568
United Kingdom	--	--	--	22	12	9
Total	4	3	8	1,550	834	842
Low-carbon ferrochromium: 5/						
China	33	22	54	2,790	1,840	3,140
Germany	754	527	1,730	10,300	7,220	26,400
Japan	--	--	--	281	110	520
Kazakstan	--	--	--	1,300	845	1,560
Macedonia	--	--	--	21	15	15
Russia	492	324	663	29,100	19,800	36,900
South Africa	245	148	273	10,100	5,700	7,750
Sweden	--	--	--	20	14	34
Turkey	--	--	--	100	73	164
Zimbabwe	--	--	--	3,020	2,030	3,510
Total	1,530	1,020	2,720	57,100	37,600	80,000
Total, all grades:						
Albania	--	--	--	2,510	1,520	1,350
Canada	--	--	--	28	14	21
China	33	22	54	17,900	11,400	12,800
Croatia	1,800	1,150	996	12,200	7,880	6,540
Germany	--	--	--	10,300	7,220	26,400
India	754	527	1,730	11,200	7,010	6,880
Japan	--	--	--	281	110	520
Kazakstan	--	--	--	1,570	1,040	2,010
Macedonia	--	--	--	21	15	15
Russia	8,160	3,850	5,730	96,000	50,000	81,700
South Africa	11,000	5,680	5,020	114,000	56,600	51,900
Sweden	--	--	--	20	14	34
Turkey	--	--	--	52,800	35,800	33,100
United Kingdom	--	--	--	104	68	72
Zimbabwe	8,850	5,470	5,340	51,500	32,500	33,000
Total	30,600	16,700	18,900	371,000	211,000	256,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

3/ Ferrochromium containing more than 4% carbon.

4/ Ferrochromium containing more than 3% but not more than 4% carbon.

5/ Ferrochromium containing not more than 3% carbon.

Source: Bureau of the Census.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN
NOVEMBER 1997, BY GRADE AND BY COUNTRY 1/

Country	November		January-November	
	Gross weight (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Value 2/ (thousands)
Waste and scrap:				
Canada	--	--	1	\$6
Japan	--	--	(3/)	7
United Kingdom	--	--	10	85
Total	--	--	11	98
Other than waste and scrap:				
Belgium	--	--	18	115
Bulgaria	--	--	80	276
Canada	--	--	1	3
China	168	\$1,070	2,280	14,000
France	118	1,030	1,710	14,000
Germany	1	51	115	1,230
Greece	(3/)	3	1	10
Hong Kong	--	--	51	318
Israel	--	--	18	55
Italy	--	--	2	27
Japan	20	383	178	5,120
Korea, Republic of	(3/)	29	(3/)	29
Mexico	--	--	20	88
Russia	44	270	2,920	18,400
Switzerland	(3/)	4	(3/)	42
Taiwan	--	--	9	54
Thailand	--	--	(3/)	3
United Kingdom	95	719	1,530	12,600
Venezuela	--	--	(3/)	2
Total	446	3,550	8,940	66,400
Total, all grades:				
Belgium	--	--	18	115
Bulgaria	--	--	80	276
Canada	--	--	2	9
China	168	1,070	2,280	14,000
France	118	1,030	1,710	14,000
Germany	1	51	115	1,230
Greece	(3/)	3	1	10
Hong Kong	--	--	51	318
Israel	--	--	18	55
Italy	--	--	2	27
Japan	20	383	178	5,120
Korea, Republic of	(3/)	29	(3/)	29
Mexico	--	--	20	88
Russia	44	270	2,920	18,400
Switzerland	(3/)	4	(3/)	42
Taiwan	--	--	9	54
Thailand	--	--	(3/)	3
United Kingdom	95	719	1,540	12,700
Venezuela	--	--	(3/)	2
Total	446	3,550	8,950	66,500

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise into the United States.

3/ Less than 1/2 unit.

Source: Bureau of the Census.